

What is claimed is:

1. A light branching apparatus, comprising:

an optical splitter which splits an optical signal for a plurality of channels on a first optical fiber into at least a first optical channel signal on a first channel of a second optical fiber and a plurality of second optical channel signals on a plurality of second channels of a third optical fiber; and

10 a first wavelength dispersion compensator which is provided for said first channel and compensates wavelength dispersion of said first optical channel signal due to said optical splitter.

2. The light branching apparatus according to claim 1, further comprising:

a second wavelength dispersion compensator which is provided for said plurality of second channels and compensates wavelength dispersion of said plurality of second optical channel signals due to said optical splitter.

3. The light branching apparatus according to claim 1, wherein said first wavelength dispersion compensator compensates wavelength dispersion of said first optical channel signal due to said second optical fiber, in addition to said wavelength

dispersion of said first optical channel signal due to said optical splitter.

4. The light branching apparatus according to claim 3, wherein said first wavelength dispersion compensator compensates said wavelength dispersion of said first optical channel signal due to said second optical fiber by difference in length between said second optical fiber and said third optical fiber on which said first optical channel signal is selectively propagated.

5. The light branching apparatus according to claim 4, further comprising:
an optical switch which switches a channel from one of said plurality of second channels to said first channel.

6. The light branching apparatus according to claim 1, further comprising:
said third wavelength dispersion compensator which is provided for said first channel and compensates wavelength dispersion of said first optical channel signal due to said second optical fiber.

7. The light branching apparatus according to

claim 1, further comprising:

said fourth wavelength dispersion compensator
which is provided for a third channel of said second
5 optical fiber and compensates wavelength dispersion of
a third optical channel signal inputted to said light
branching apparatus due to said second optical fiber.

8. The light branching apparatus according to
claim 1, wherein said plurality of optical channel
signals are compensated in units of channels, and said
first wavelength dispersion compensator includes at
5 least a first wavelength dispersion compensating
element for the channel of said first optical channel
signal.

9. An optical communication system comprising:
a first optical fiber connected to a first
station;

a second optical fiber connected to a second
5 station;

a third optical fiber connected to a third
station; and

a light branching apparatus, which comprises:

an optical splitter which splits an optical
10 signal for a plurality of channels on said first
optical fiber from said first station into at least a
first optical channel signal on a first channel of

said second optical fiber and a plurality of second
optical channel signals on a plurality of second
15 channels of said third optical fiber; and

a first wavelength dispersion compensator
which is provided for said first channel and
compensates wavelength dispersion of said first
optical channel signal due to said optical splitter.

10. The optical communication system according to
claim 9, further comprising:

a second wavelength dispersion compensator
which is provided for said plurality of second
5 channels and compensates wavelength dispersion of said
plurality of second optical channel signals due to
said optical splitter.

11. The optical communication system according to
claim 10, wherein said first wavelength dispersion
compensator compensates wavelength dispersion of said
first optical channel signal due to said second
5 optical fiber, in addition to said wavelength
dispersion of said first optical channel signal due to
said optical splitter.

12. The optical communication system according to
claim 11, wherein said first wavelength dispersion
compensator compensates said wavelength dispersion of

said first optical channel signal due to said second
5 optical fiber by difference in length between said
second optical fiber and said third optical fiber on
which said first optical channel signal is selectively
propagated.

13. The optical communication system according to
claim 12, further comprising:

an optical switch which switches a channel from
one of said plurality of second channels to said first
5 channel.

14. The optical communication system according to
claim 9, further comprising:

said third wavelength dispersion compensator
which is provided for said first channel and
5 compensates wavelength dispersion of said first
optical channel signal due to said second optical
fiber.

15. The optical communication system according to
claim 9, further comprising:

said fourth wavelength dispersion compensator
which is provided for a third channel of said second
5 optical fiber and compensates wavelength dispersion of
a third optical channel signal inputted to said light
branching apparatus due to said second optical fiber.

16. The optical communication system according to claim 9, wherein said plurality of optical channel signals are compensated in units of channels, and said first wavelength dispersion compensator includes at least a first wavelength dispersion compensating element for the channel of said first optical channel signal.

17. A light branching apparatus comprising:

an optical switch which switches a transmission channel of a first optical channel signal on a first optical fiber from a first channel on a second optical fiber to a second channel on a third optical fiber;

a wavelength dispersion compensator which compensates wavelength dispersion of said first optical channel signal due to said second optical fiber by difference in length between said second optical fiber and said third optical fiber.

18. A light branching apparatus, comprising:

an optical splitter which splits at least a first optical channel signal from an optical signal for a plurality of channels on a first optical fiber to transmit onto a first channel of a second optical fiber; and

a first wavelength dispersion compensator which is provided for said first channel and compensates

wavelength dispersion of said first optical channel
10 signal due to said second optical fiber.

19. The light branching apparatus according to
claim 18, further comprising:

a second wavelength dispersion compensator
which is provided for a second channel of said second
5 optical fiber, and compensates wavelength dispersion
of a second optical channel signal supplied on said
second channel due to said second optical fiber.